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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,598	04/26/2000	Keiji Maeda	Q58920	1083

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EXAMINER

LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 06/02/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/558,598

Applicant(s)

MAEDA, KEIJI

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are still objected to because in Fig. 11, step C1, the word "cleate" appears like it was mistyped and should actually be "create". It was noted in the Amendment sent on December 29, 2003 that this correction was made, but Fig. 11 does not reflect the change. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 8-15, 18, 21-28, 31, and 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. (US 5,978,375).

4. Regarding claims 1, 14, 27, and 40, Peterson et al. discloses a telecommunications system that uses ATM and microcells to transfer information. Overall, the system includes a sending entity, a receiving entity, and an ATM link between the two entities. See Fig. 1. The sending entity has means for handling microcells and putting them into the payload of an ATM-cell. Likewise, the receiving entity should comprise means to disassemble a microcell. See col. 5, lines

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35-64. More specifically, the sending entity includes application functions 806, microcell assemble function 810, and ATM cell assemble function 814, and the receiving entity has similar functions for disassembling the ATM and microcells for the application functions on that side of the communication system. See Fig. 8. Fig. 10 shows an implementation of the microcell assembling function. Arriving user data 808 is put into a FIFO 1010. The ATM connection pointer and the microcell header is fed to the multiplexer which is used to assemble the microcell. See col. 9, lines 24-57. As shown in the figure, the user data 808 enters the microcell assembling function in a serial fashion, where the user data 808 can be thought of as the "plurality of packets" (transferring a plurality of packets in a serial manner). The microcells can be thought of as "transfer packets" (a packet creating section for collecting said plurality of packets transferred in said serial manner to create a transfer packet). Fig. 13 shows an embodiment of the ATM cell assembling function 814. After the microcells have been assembled, they arrive at the ATM-cell assembling function to be assembled into ATM cells. The microcell is temporarily stored in one of a number of FIFO's, one for each ATM connection. When the number of microcells stored in the FIFO's 1306 for the connection is sufficient to fill the ATM cell payload according to the selected method, the ATM-cell is assembled and sent to a FIFO 1322. The ATM cell is then sent onto the ATM link for communication to the receiving device. See col. 10, line 45-col.11, line 23. By putting the microcell into ATM cell format, a protocol conversion occurs (a cell sending section for converting said transfer packets created by said packet creating section into a cell able to be sent onto a predetermined communication network and then sending cell onto said predetermined communication network). After traveling over the ATM link, the ATM cell enters the ATM-cell disassembling function and microcell

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disassembling function. See also Fig. 16. The multiplexer 1714 supports most of the disassembly functions. It has two basic functions, one being to extract the ATM header and microcell headers respectively, when they are read from the FIFO 1714 and pass the microcell user data along to a demultiplexer 1716. Once the microcell 1732 has reached the end of the disassembling and demultiplexing process, the microcell goes through microcell disassembling process 822, and the output from each functional entity is user data 824 which is presented to the application functionality 826. See col. 14, line 8-col. 16, line 13. The ATM cell disassembling function can be considered a "packet reconfiguring section" and the microcell disassembling function can be considered "a packet dividing/transferring section" because it divides the microcells so that it is presentable to the application function.

5. Peterson et al. discloses an entire ATM cell must go through an integrity check, where the integrity check is made on the cell header. If the integrity check fails, the cell is not selected to continue being transferred. See col. 16, lines 24-26. Peterson et al. also discloses that the user data received by the sending entity 302 can be in the form of a data packet, where data packets inherently have headers. See claim 5. Peterson et al. does not expressly disclose where the selection process used for ATM cells is used at the stage where user data is received by the sending entity. However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to employ a similar selection process at the point where user data is first received. One would have been motivated to do this because checking for errors early in the process would prevent corrupted data from even reaching the network. By not selecting data that is corrupted, bandwidth is freed up for use by data that has a chance of being transferred properly.

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6. Regarding claims 2, 5, 15, 18, 28 and 31, the microcell assemble function is able to receive data on a time division multiplex basis. See col. 8, lines 49-57. Likewise, data can be passed onto the receiving end in the same manner. Time division multiplexing works on a cycle basis (transferred in a serial manner every first time lapse).

7. Regarding claims 8, 10, 21, 23, 34, and 36, Peterson et al. discloses a virtual channel identifier found in the ATM header. The VCI is used for identifying the virtual channel that the ATM cell will travel (communication network is configured from one virtual channel). See col. 4, lines 37-45.

8. Regarding claims 9, 22, and 35, as mentioned previously, the applications functions on the receiving and the transmitting ends are serially connected to the microcell assembling/disassembly functions as seen in Figs. 13 and 17.

9. Regarding claims 11, 24, and 37, the VP/VC identifying the ATM connection is used to address the relevant position 1724 in the ATM table as indicated by dashed arrow 1722. See Fig. 17. Fig. 17 shows the ATM cell disassembly and microcell disassembly in detail, so the information on virtual channels is forwarded to the receiving units that are responsible for the disassembly. See col. 5, lines 19-41

10. Regarding claims 12, 25, and 38, Peterson et al. discloses that the multiplexer 1714 uses the table information of virtual channels in transferring the microcells, and thus user data, to the proper destinations. See col. 15, lines 34-65.

11. Regarding claims 13, 26, and 39, as shown in Fig. 8, the sending entity and the receiving entity rely on different buses and are only connected through the ATM link. See Fig. 8.

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12. Claims 3, 4, 16, 17, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. in view of Murakami (US 6,084,889), in light of the rejection to claim 1.

Peterson et al. does not expressly disclose using time stamps in the packets. Murakami discloses inserting time stamps into ATM cells, and then on the output, to use the time stamps in demultiplexing. See at least col. 3, line 44-col. 4, lines 61. It would have been obvious to a person of ordinary skill in the art at the time of the invention to place timestamps in the microcells of Peterson et al., and to use these time stamps in the disassembling process. One would have been motivated to do this because it allows the microcells to be outputted in the same order that they were inputted, which is important in time sensitive applications like video and voice.

13. Claims 6, 7, 19, 20, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. in view of Laubach et al. (US 6,081,533). Peterson et al. does not expressly disclose where the user data is of IEEE 1394 format, both on the input and the output. Laubach et al. discloses converting 1394 formatted data into ATM packets for transmission over an ATM network. See col. 15, line 47-col. 16, lines 25. Also, it is inherent in 1394 that the packets are isochronous—it is part of the 1394 standard. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use 1394 formatted data as the user data in Peterson et al.. One would have been motivated to do this because in a home network environment, to send from device to another, sometimes it is helpful to convert the data format to ATM so that other machines can read the data. See cited section above for additional motivation.

Response to Arguments

14. Applicant's arguments filed December 29, 2003 have been fully considered but they are not persuasive.

15. In response to Applicant's argument that Petersen et al. does not expressly disclose a packet selecting section nor a packet creating section, the Examiner respectfully disagrees. As now noted in the rejection, it would have been obvious to employ a selection section for the reasons stated previously. See paragraph 5 for a more detailed explanation. Petersen also discloses a packet creating section, where the microcells are being assembled. See at least Fig. 9 and 10. Thus, the Examiner believes the rejection is proper.

16. In response to Applicant's argument that the Examiner has misinterpreted the transfer packets, the Examiner respectfully disagrees. Specifically, Applicant contends that the microcell in Petersen appears to have a fixed length, while the transfer packet of the present invention is variable. This argument is seen as irrelevant. Regardless of whether or not Petersen makes such a limitation, the variability of length of the transfer packet is not a limitation included in the claims of the claimed invention. Thus, it cannot be argued that the transfer packets *must* be of a variable length, and the rejection is believed to be proper.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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Timothy Lee
May 19, 2004



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